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IPTC - NAA

Information

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[Comité International des Télécommunications de Presse](#)

IPTC - NAA INFORMATION INTERCHANGE MODEL

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IPTC-NAA INFORMATION INTERCHANGE MODEL PART I

1. GENERAL

1.1 INTRODUCTION

1.2 World-wide standardisation has become an acknowledged requirement in the graphics and information industry. In telecommunications, standardisation is centred upon the widely accepted seven-layer "Open Systems Interconnection" (OSI) model. While the lower five or six layers of this model are filled by other bodies, such as telecommunications companies or administrations, the CCITT, the ISO and manufacturers, it remains the responsibility of the users of information to define the model for the dissemination of data.

1.3 The Newspaper Association of America (NAA) and the International Press Telecommunications Council (IPTC) have worked jointly to design a globally applicable model for all kinds of data. Every effort has been made for this model to be as compatible as possible with ISO and CCITT standards in the fields of application. The joint effort will continue for further development and for amendment when advisable.

1.4 This model is designed to provide for universal communications embracing all types of data, including text, photos, graphics, etc. on a single network or a single storage medium. A mechanism is provided to use existing formats during transition.

1.5 The model assumes that the sender wishes to transfer a data object, such as a photographic image, text or perhaps a combination of many types. An envelope is provided around the object for information as to the type of data and the file format. Additional information, such as caption, news category or dateline also is included. The object itself is transferred, together with information regarding the size of the data.

1.6 Thus ANY form of computerised data may be transferred, together with pertinent editorial and technical information.

1.7 Older practice consisted primarily of rigidly formatted "headers" with a number of required fields denoting such things as story priority or category. The model here presented has relatively few required pieces of information.

Instead, the information about the object consists of "DataSets," each with its own identifier. Only those DataSets required for an application are mandatory. Other DataSets are optional and are utilised only when the provider deems it necessary to do so.

1.8 SCOPE

This document defines:

- The envelope for information.
- The method by which existing standards for news information can be included.
- The records for additional information about the object.
- The data structure to be used for presentation of information.
- An application record to provide pertinent editorial information about the object to be transmitted.
- Guidelines for implementation.

1.9 FIELD OF APPLICATION

- 1.9.1** This document applies to the digital data distributed by news service carriers to their subscribers or interchanged between individual users.

1.10 RELATION TO OSI

- 1.10.1** This document describes the standardised representation of news information for the applications layer (Layer 7) of the ISO Open Systems Interconnection Model (OSI). NOTE: The association to OSI layers may be redefined as OSI connectionless application standards are developed.

1.11 MODEL DEVELOPMENT

- 1.11.1** The introduction of new DataSets (or dropping of old) in records 1, 2, 7, 8 and 9 will occur only after international concurrence.
- 1.11.2** Records 3 through 6 will be managed by originators of the formats contained in record No. 1.

2. TERMS, DEFINITIONS AND NOTATION

For the purpose of this recommendation, the following definitions apply:

- 2.1 Actuality:** The sound of a newsmaker, e.g. from a speech, interview, etc. Also known as a "sound bite."
- 2.2 AIFF:** A sound file format for the Apple Macintosh, can be converted to WAVE and vice versa.
- 2.3 alphabetic, alphabetic character:** An alphabetic character is member of a set of characters representing letters of the alphabet.

Example: In the ISO 646 character set, alphabetic characters are between 4/1 and 5/10 (A through Z) and between 6/1 and 7/10 (a through z), all inclusive. Alphabetic characters are shown in this document enclosed in single quotation marks, e.g. 'a', 'T', 'u'.

A series of alphabetic characters is shown in double quotation marks, e.g. "IPTC", "Berlin", "Paris".

- 2.4 binary number:** A series of n data bits $b_{n-1}, b_{n-2} \dots b_0$ where b_{n-1} is the highest order, or most significant bit and b_0 is the lowest order, or least significant bit. As represented in this document, binary numbers always are expressed from left to right with the left-most bit the most significant bit and the right-most bit the least significant bit. If the binary numbers are formed by multiple octets, the bits forming any octet are presumed to be less significant than those of any octet to the left and more significant than those of any octet to the right. For example, if two octets, numbered left to right as 1 and 2, are taken together as a binary number, octet No. 1 will contain the most significant bits.

Decimal Interpretation:

The bit combinations are identified by notations of the form xxx..., where xxx... is a number in the range 000-infinity. The correspondence between the bits and their value is as follows:

Bits	$b_{n-1}, b_{n-2} \dots b_0$
Weight	$2^{n-1}, 2^{n-2} \dots 2^0$

The least significant bit, i.e. the bit of lowest value always is aligned with the least significant bit of the octet or other data frame containing it.

- 2.5 bit resolution:** The accuracy of digitisation, e.g. 8-bit or 16-bit. Along with duration, sampling rate and number of channels (mono/stereo), affects the size of the audio file.
- 2.6 CCITT:** Comité Consultatif International Télégraphique et Téléphonique. Defunct organisation. Formerly an organisation of telephone and telegraph providers with headquarters in Geneva, Switzerland. Replaced in December 1992 by a division of the International Telecommunications Union (ITU) Standardization Sector.
- 2.7 character:** A member of a set of elements used for the organisation, control or representation of data.
- 2.8 code table:** A table showing the character allocated to each bit combination in a code.
- 2.9 Co-ordinated Universal Time (UTC):** The time scale defined by the Bureau International de l'Heure (International Time Bureau) that forms the basis of a co-ordinated dissemination of standard frequencies and time signals. The mismatch of ordering of characters between the name and initials is intentional.
- 1, The source of this definition is Recommendation 460-2 of the Consultative Committee on International Radio (CCIR). CCIR has also defined the acronym for Co-ordinated Universal Time as UTC.
 - 2, UTC is often (incorrectly) referred to as Greenwich Mean Time and appropriate signals are regularly broadcast.
- 2.10 cut:** A single audio object within the IIM envelope, e.g. actuality, wrap.
- 2.11 day:** A period of time of 24 hours starting at 0000 and ending at 2400 (which is equal to 0000 the following day).
- 2.12 editorial information:** Information primarily of interest to editors concerning the content of the object, such as date and place of creation, name of creator, etc. This information is contained in DataSets 2:xx of the Universal Application Record.
- 2.13 editorial material:** Data contained in the object that represents observations, opinions or analysis of the provider as opposed to statistical data, that simply reports data such as temperatures, sports scores, financial market prices, etc.

2.14 graphic character: A member of a subset of a set of characters. The graphic character subset includes all characters that have visual representation, normally hand-written, printed or displayed, and that has a coded representation consisting of one or more bit combinations. Control codes, space character (ISO 646 2/0) and DEL (ISO 646 7/15) are not graphic characters. The sets of alphabetic and numeric characters are subsets of the set of graphic characters. Graphic characters are shown in this document enclosed in single quotation marks, e.g. '*', 'T', '-'. A series of graphic characters are shown in double quotation marks, e.g. "IPTC-7901", "DÜSSELDORF", "\$1.99". Note that the visual representation of a graphic character depends upon the character set invoked at the time of evaluation.

2.15 International Press Telecommunications Council (IPTC): An organisation of news agencies, newspapers and other news organisations, with headquarters in Windsor and formed for the establishment of news transmission standards and other activities for the common benefit of its members. (Also known as the Comité International des Télécommunications de Presse.)

The address is found in Appendix B.

2.16 International Organization for Standardization (ISO): An international body with headquarters in Geneva, Switzerland, to co-ordinate the work of national bodies such as ANSI, BSI or DIN. Also involved are IEEE, ECMA and the IPTC. ISO is broadly responsible for standards that operate over communications media. The mismatch of ordering of characters between the name and initials is intentional.

2.17 ISO 646: A coded set of characters based upon seven significant bits. ISO 646 has numerous national versions. Unless otherwise specified, all references herein contained are to the International Reference Version.

2.18 ITU: International Telecommunications Union. An organisation of telephone and telegraph providers with headquarters in Geneva, Switzerland. The ITU reports to the United Nations Organisation (UNO). All telecommunications administrations and recognised private common carriers belong to the ITU.

The address is found in Appendix B.

2.19 minute: A period of time of 60 seconds.

2.20 month, calendar: A period of time resulting from the division of a calendar year in twelve sequential periods of time, each with a specific name and containing a specific number of days.

- 2.21 MPEG:** Motion Picture Experts Group, Coding of Moving Pictures and Associated Audio for Digital Storage Media, ISO/IEC 11172-3, Part 3 being the section concerned with digital audio.
- 2.22 NAA:** The Newspaper Association of America was created on 1 June 1992 from the American Newspaper Publishers Association (ANPA), the Newspaper Advertising Bureau (NAB), and six other newspaper associations. NAA represents nearly 2000 newspapers in the United States, Canada, and around the world. The address is found in Appendix B.
- 2.23 numeric, numeric character:** The textual representation by means of a specific character set of the binary values 0-9 in decimal notation. Numeric characters are a subset of the set of graphic characters and are the characters '0', '1', '2', '3', '4', '5', '6', '7', '8', '9'. In this document, numeric characters are enclosed in single quotation marks. Series of numeric characters are enclosed in double quotation marks, e.g. "23", "124".
- 2.24 object:** A term to describe the entire data collection of all records, excluding record 1 DataSets concerned with data transmission, for an instance under the Information Interchange Model.
- 2.25 objectdata:** A collection of binary data, such as a photo, news graphic or text, that is the essence of the data to be presented and contained in Record 8.
- 2.26 octet:** A data frame of eight bits identified by $b_7, b_6, b_5, b_4, b_3, b_2, b_1$ and b_0 where b_7 is the highest order, or most significant bit and b_0 is the lowest order, or least significant bit.

Unless otherwise specified, all references to bits of octets herein described are from left to right with the most significant bit on the left and the least significant bit on the right.

Character Definition by Chart Position:

The bit combinations are identified by notations of the form xx/yy, where xx and yy are numbers in the range 00-15 or x/y where x and y are numbers in the range 0-7. The correspondence between the notations of the form xx/yy and the bit combination consisting of the bits b_7 - b_0 are as follows:

	xx				yy			
Bits	b_7	b_6	b_5	b_4	b_3	b_2	b_1	b_0
Weight	8	4	2	1	8	4	2	1

2.27 The bit combinations are identified by notation of the form xxx, where xxx is a number in the range 000-255. The correspondence between the notations of the form xxx and the bit combination consisting of the bits b_7 - b_0 are as follows:

Decimal Interpretation:

Bits	b_7	b_6	b_5	b_4	b_3	b_2	b_1	b_0
Weight	128	64	32	16	8	4	2	1

2.28 **outcue:** The last spoken words heard on the audio, used to help editors and news anchors construct program scripts and resume speaking after the broadcast of an audio file.

2.29 **OSI model:** OSI stands for Open Systems Interconnection, a term used to describe the agreed international standards by which open systems communicate. The OSI model, jointly defined by CCITT and the ISO, is an architectural model with seven layers. Layers 5 through 7 (Session, Presentation, Application) concern the functions of interworking. The model is described in the ISO 7498 standard.

2.30 **sampling rate:** The frequency at which analogue audio signals are measured. Each sample is a measure of the signal's level at a discrete time. Along with bit resolution, duration and number of channels (mono/stereo), affects the size of an audio file.

2.31 **scener:** An audio report in which a correspondent describes a scene being viewed, usually with natural sound background.

2.32 **second:** A basic unit of measurement of time in the International System of Units (SI) as defined in ISO 31-1.

2.33 **Unstructured Character Oriented File Format (UCOFF):** The UCOFF consists of a collection of data mapped to the coded character set ISO 646 IRV unless defined otherwise in DataSet 1:90. The UCOFF is intended to be a means of exchanging data commonly known as "text", including non-printing characters as defined within the coded character set. The UCOFF is not intended to be a "catch all" means of transmitting unregistered file formats. Implementors or users of formatted data should seek appropriate registration.

2.34 **voicer:** An audio report which consists solely of a correspondent's voice.

- 2.35** **WAVE:** Also known as RIFF WAVE, a file format developed by Microsoft and IBM consisting of a header section that describes the recording parameters of the audio and the audio data itself. Can be converted to AIFF and vice versa.
- 2.36** **wrap:** An audio report which includes the voices of both a correspondent (or correspondents) and a newsmaker (or newsmakers).
- 2.37** **year, calendar:** A cyclic period of time in a calendar that is required for one revolution of the earth around the sun.

3. INFORMATION INTERCHANGE MODEL

3.1 Functionality

The Information Interchange Model consists of a number of records in a structure described below and which detail into five sub-layers, namely:

- Object Envelope Record, DataSets in the range of 1:xx
- Application Records, DataSets in the range 2:xx through 6:xx
- Pre-ObjectData Descriptor Record, DataSets in the range 7:xx
- ObjectData Record, DataSets in the range 8:xx
- Post-ObjectData Descriptor Record, DataSets in the range 9:xx

3.1.1 Functionality of the Object Envelope Record

3.1.1.1 This record is mandatory and envelops all types of objectdata, including data encapsulated in previously defined formats or headers, which themselves can be enveloped by the 1:xx record, thus enabling the use of older formats within the new model. Within record 1:xx, DataSets 1:00, 1:20, 1:22, 1:30, 1:40 and 1:70 are mandatory.

3.1.1.2 File Formats are valid only by international agreement and are to be found in Appendix A to this document.

3.1.1.3 The DataSets will permit a single link to be used for transmission of any type of data. The recipient may sort or buffer data temporarily so that the data may be sent to the appropriate subsystem.

3.1.2 Functionality of the Application Records

3.1.2.1 Since the model is designed to encapsulate older formats, if required, some means must be provided to supply information that otherwise might not be provided in those older formats. Records 2:xx through 6:xx provide the capability to do this. Records 2:xx through 6:xx may optionally be used regardless of whether they duplicate any information that might be contained within the envelope record.

3.1.3 Functionality of the Pre-ObjectData Descriptor Record

3.1.3.1 Record 7:xx is mandatory and provides a means of describing the size of the objectdata file.

3.1.4 Functionality of the ObjectData Record

3.1.4.1 Record 8:xx is mandatory and provides the actual objectdata contained in one or more DataSets. The object may be sent in one or more packets of DataSet 8:10, however, the DataSets must occur in sequential order without intervening DataSets.

3.1.5 Functionality of the Post-ObjectData Descriptor Record

3.1.5.1 Record 9:xx is mandatory and gives the size of the objectdata file.

4. RECORDS

4.1 Ordering of Records

4.1.1 Records must be in numerical order. However, DataSets within a record need not be in numerical order, unless otherwise specified in the DataSet description.

4.2 Occurrence of Records

4.2.1 If the provider elects to use Part II of the Model (Records No. 2 through No. 6), they should appear only in one iteration, e.g. there should be no more Record 2s after Record 6.

4.3 Record Structure

4.3.1 Each record is composed of DataSets:

Record		
DataSet 1	DataSet 2	DataSet 3

4.4 DataSets

4.4.1 Each DataSet consists of a unique tag and a data field.

4.4.2 Only a few DataSets have fixed length: all DataSets (except for record 8 containing the object) have maximum length, although in most cases it is not required to fill that length. There is no end-of-DataSet marker.

4.4.3 The tag identifier is globally unique in the usage of records 1, 7, 8 and 9. In records 2 through 6 different usage may occur for different types of data.

4.4.4 There are two types of DataSets: standard and extended. A standard tag is utilised when the number of octets in the data field is equal to or less than 32767. Otherwise, the extended DataSet is used.

Standard DataSet	
Tag	Data Field

Extended DataSet		
Tag	Data Field Octet Count	Data Field

4.5 Tags

4.5.1 General

Tags may be of two types, depending upon whether the length of the data field is equal to or less than 32767 (decimal) octets in length.

4.5.2 The Standard DataSet Tag

4.5.2.1 If the length of the data field is equal to or less than 32767 octets in length, the tag is composed of five octets defined as follows.

Standard DataSet Tag				
1	2	3	4	5
Tag Marker	Record Number	DataSet Number	Data Field Octet Count	

4.5.2.2 Octet 1 is the tag marker that initiates the start of a DataSet and is always position 1/12.

4.5.2.3 Octet 2 is the binary representation of the record number. Note that the envelope record number is always 1, and that the application records are numbered 2 through 6, the pre-object descriptor record is 7, the object record is 8, and the post-object descriptor record is 9.

4.5.2.4 Octet 3 is the binary representation of the DataSet number.

4.5.2.5 Octets 4 and 5, taken together, are the binary count of the number of octets in the following data field (32767 or fewer octets). Note that the value of bit 7 of octet 4 (most significant bit) always will be 0.

4.5.3 The Extended DataSet Tag

If the length of the data field is greater than 32767 octets, the tag is composed of five octets defined as follows plus a field describing the length of the data field. The length of the Data Field Length Descriptor is provided in binary form in the 15 least significant bits of octets 4 and 5 taken together as a binary number. The value of the most significant bit (bit 7 of octet 4) always is 1 to flag that the extended DataSet is in effect. Otherwise, it is constructed

Extended DataSet Tag					
1	2	3	4	5	6 . . . n
Tag Marker	Record Number	DataSet Number	Length of Data Field Octet Count Field		Data Field Octet Count

the same as the Standard DataSet Tag.

4.6 Coded Character Set

4.6.1 Record 1:xx shall use coded character set ISO 646 International Reference Version or ISO 4873 Default Version .

4.7 Envelope Record DataSets

4.7.1 Interpretation

4.7.1.1 Some DataSets are described as "publishable." The information in such DataSets is expected to be composed in such a way that it can be printed or otherwise published "as is."

4.7.1.2 Some DataSets are described as "advisory." The information in such DataSets is expected to be human-readable. NO machine-readable information should be anticipated in these DataSets.

4.7.2 Encapsulation of Older Formats

4.7.2.1 If a receiving system reads the file format as an existing header and content format such as IPTC7901, it may then interpret DataSet 8:10 (Object) as a switch to begin accepting data and interpreting in that format. In such a case, that format's end of data signal would function as the signal to return to the envelope record level or to return control to lower layers, whichever is appropriate.

Likewise, upon finding that the defined format has its own specific application records, the DataSets of records 2-6 will be interpreted in the manner specific to that format.

5. IMPLEMENTATION GUIDELINES

This section is for the software engineer or programmer to use as a guideline when implementing this model.

- 5.1** There is no end-of-DataSet marker. If the receiving system has not detected a new DataSet in the first octet following the end of the preceding data field, as described by the length, the system should assume an error and recover accordingly.
- 5.2** An input program should use the octet counts and not simply search for tag markers as delimiters because the fields can contain binary data that may be of the same value as the tag markers themselves.
- 5.3** A program should ignore a DataSet it does not recognise without rejecting the otherwise acceptable data or terminating the application program. In this manner information that might be provided in new application records will not affect unmodified programs.
- 5.4** A program encountering a DataSet with a repeated tag number should assume that it is "more or another of the same", e.g. as where a sequence of subfiles (or sub-images) is encountered. If a repeated tag number is encountered for a DataSet defined as non-repeatable, an error condition is assumed and handled without aborting the program and without aborting data capture, i.e. the data of the first-encountered DataSet should be retained. The maximum number of repeats is not defined. Where DataSets are repeatable, only one piece of data should be included in that DataSet. For example, a DataSet defining news categories should include one category per DataSet.
- 5.5** A single transmission can include multiple objects of various types of data. If layer 5 or 6 of the OSI model has not received an end-of-transmission, the receiving system should expect to receive a DataSet 1:xx and subsequent DataSets.
- 5.6** If the Envelope Record File Format DataSet (1:20) identifies an existing format, such as NAA 89-3 (ANPA 1312) or IPTC 7901, the system may branch to Record 7:xx or to the header fields as identified in the existing

format. Programmers are advised to look for the presence of the record No. 2 in order to take advantage of additional information that it might provide.

- 5.7** If the File Format (1:20) identifies a format that has no means of providing pertinent editorial information or whose information is insufficient, the sender is expected to use Record No. 2 as herein provided. Programmers should ensure that presence of Record No.2, if not expected, does not cause the program to abort or reject otherwise acceptable data.
- 5.8** Image Type (2:130) is designed to be used where the file formats utilised by the provider do not otherwise provide that information. If there is a conflict between DataSet 2:130 and any DataSet in Record No.3 the Record No.3 DataSet takes precedence.
- 5.9** DataSet 8:10. If the object is sub-divided and placed into multiple DataSets 8:10 there may be no correlation between the nature of the object and the sub-division structure. The division of the object into subfiles may be necessary because of equipment design constraints but has no relation to the object itself.
- 5.10** The UNO (DataSet 1:100) is new in version 3 of the IIM and specified herein as 'optional'. It should be noted, however, that information provided under version 3 generally contains the UNO and that receiving software for version 3 should fully support DataSet 1:100. It should furthermore be noted that in future versions of the IIM, the UNO might be made mandatory and that DataSets 2:45, 2:47 and 2:50 for reference to an object might be removed.

6. ENVELOPE RECORD

	DATASET NAME	DESCRIPTION
1:00	Model Version	<p>Mandatory, not repeatable, two octets.</p> <p>A binary number identifying the version of the Information Interchange Model, Part I, utilised by the provider. Version numbers are assigned by IPTC and NAA.</p> <p>The version number of this record is three (3).</p>
1:05	Destination	<p>Optional, repeatable, maximum 1024 octets, consisting of sequentially contiguous graphic characters.</p> <p>This DataSet is to accommodate some providers who require routing information above the appropriate OSI layers.</p>
1:20	File Format	<p>Mandatory, not repeatable, two octets.</p> <p>A binary number representing the file format. The file format must be registered with IPTC or NAA with a unique number assigned to it (see Appendix A). The information is used to route the data to the appropriate system and to allow the receiving system to perform the appropriate actions thereto.</p>
1:22	File Format Version	<p>Mandatory, not repeatable, two octets.</p> <p>A binary number representing the particular version of the File Format specified in 1:20.</p> <p>A list of File Formats, including version cross references, is included as Appendix A.</p>
1:30	Service Identifier	<p>Mandatory, not repeatable. Up to 10 octets, consisting of graphic characters.</p> <p>Identifies the provider and product.</p>

- 1:40 Envelope Number** Mandatory, not repeatable, eight octets, consisting of numeric characters.
- The characters form a number that will be unique for the date specified in 1:70 and for the Service Identifier specified in 1:30. If identical envelope numbers appear with the same date and with the same Service Identifier, records 2-9 must be unchanged from the original. This is not intended to be a sequential serial number reception check.
- 1:50 Product I.D.** Optional, repeatable. Up to 32 octets, consisting of graphic characters.
- Allows a provider to identify subsets of its overall service. Used to provide receiving organisation data on which to select, route, or otherwise handle data.
- 1:60 Envelope Priority** Optional, not repeatable. A single octet, consisting of a numeric character.
- Specifies the envelope handling priority and not the editorial urgency (see 2:10, Urgency). '1' indicates the most urgent, '5' the normal urgency, and '8' the least urgent copy. The numeral '9' indicates a User Defined Priority. The numeral '0' is reserved for future use.
- 1:70 Date Sent** Mandatory, not repeatable. Eight octets, consisting of numeric characters.
- Uses the format CCYYMMDD (century, year, month, day) as defined in ISO 8601 to indicate year, month and day the service sent the material.
- Example:*
An entry of "19890412" indicates data sent on 12 April 1989.
- 1:80 Time Sent** Optional, not repeatable, 11 octets, consisting of graphic characters.
- Uses the format HHMMSS±HHMM where HHMMSS refers to local hour, minute and seconds and HHMM refers to hours and minutes ahead (+) or behind (-) Universal Coordinated Time as described in ISO 8601. This is the time the service sent the material.

Example:

At 3:27 p.m. in New York in January it would be expressed as "152700-0500" as New York is five hours behind UTC. At the same moment in Paris, the time would be expressed as "212700+0100". In both instances the time is 20:27 (8:27 p.m.) UTC. Midnight should be expressed as "240000" (with the appropriate offset from UTC).

1:90 Coded Character Set Optional, not repeatable, up to 32 octets, consisting of the escape control character, and graphic characters.

One or more escape sequences for the announcement of the code extension facilities used in the data which follows, for the initial designation of the G0, G1, G2 and G3 graphic character sets and the initial invocation of the graphic set (7 bits) or the left-hand and the right-hand graphic set (8 bits) and for the initial invocation of the C0 (7 bits) or of the C0 and the C1 control character sets (8 bits) in use for data fields in records 2-6 and 8. Follows the ISO 2022 standard. The recognised graphic repertoire and control function repertoire are listed in Appendix C.

The announcement of the code extension facilities, if transmitted, must appear in this data set. Designation and invocation of graphic and control function sets (shifting) may be transmitted anywhere where the escape and the other necessary control characters are permitted. However, it is recommended to transmit in this data set an initial designation and invocation, i.e. to define all designations and the shift status currently in use by transmitting the appropriate escape sequences and locking-shift functions.

If 1:90 is omitted, the default for records 2-6 and 8 is ISO 646 IRV (7 bits) or ISO 4873 DV (8 bits). Record 1 shall always use ISO 646 IRV or ISO 4873 DV respectively.

1:100 UNO Optional, not repeatable. Minimum of 14 and maximum of 80 octets consisting of graphic characters. Colon ':' and solidus '/' are only allowed as specified, the asterisk '*' and question mark '?' are not allowed.

UNO Unique Name of Object, providing eternal, globally unique identification for objects as specified in the IIM, independent of provider and for any media form. The provider must ensure the UNO is unique. Objects with the same UNO are identical.

The UNO consists of four elements and provides the following functionality:

- **UNO Creation Date (UCD)**
Specifies a 24 hour period in which the further elements of the UNO have to be unique. It also provides a search facility.
- **Information Provider Reference (IPR)**
A name, registered with the IPTC/NAA, identifying the provider that guarantees the uniqueness of the UNO. It may assist in locating an object source.
- **Object Descriptor Element (ODE)**
In conjunction with the UCD and the IPR, a string of characters ensuring the uniqueness of the UNO. The provider may structure the element by use of a solidus '/' character.
- **Object Variant Indicator (OVI)**
A string of characters indicating technical variants of the object such as partial objects, or changes of file formats, and coded character sets.

Rules

The rules for the generation of the UNO are:

- The first three elements of the UNO (the UCD, the IPR and the ODE) together are allocated to the editorial content of the object.
- Any technical variants or changes in the presentation of an object, e.g. a picture being presented by a different file format, does not require the allocation of a new ODE but can be indicated by only generating a new OVI.

Links

Links may be set up to the complete UNO but the structure provides for linking to selected elements, e.g. to all objects of a specified provider.

UNO Component Definitions

ES	Element Separator	Separates the elements within a UNO and consists of a single colon ':' character. All ES are mandatory but must not appear within an element.
ESD	Element SubDivider	Subdivides the ODE or OVI at the discretion of the provider and consists of a single solidus '/' character.

- IPR** Information Provider Reference Second element of the UNO. A minimum of one and a maximum of 32 octets. A string of graphic characters, except colon ':', solidus '/', asterisk '*' and question mark '?', registered with, and approved by, the IPTC.
A list of registered strings of the IPR is located in Appendix E.
- ODE** Object Descriptor Element Third element of the UNO. A minimum of one and a maximum of 60 minus the number of IPR octets, consisting of graphic characters, except colon ':', asterisk '*' and question mark '?'. The provider bears the responsibility for the uniqueness of the ODE within a 24 hour cycle.
- OVI** Object Variant Indicator Fourth element of the UNO. A minimum of one and a maximum of 9 octets, consisting of graphic characters, except colon ':', asterisk '*' and question mark '?'. To indicate a technical variation of the object as so far identified by the first three elements. Such variation may be required, for instance, for the indication of part of the object, or variations of the file format, or coded character set. The default value is a single '0' (zero) character indicating no further use of the OVI.
- UCD** UNO Creation Date First element of the UNO. 8 octets in ISO 8601 date format (CCYYMMDD), consisting of numeric characters.
- UNO** Unique Name of Object A universally unique name consisting of four elements. Total of UNO has a minimum of 14 and maximum of 80 octets.

UNO Structure

UNIQUE NAME of OBJECT (UNO)						
<i>Minimum of 14 and maximum of 80 Octets for full UNO</i>						
UCD	ES	IPR	ES	ODE	ES	OVI
CCYYMMDD (ISO 8601)	:	1 - 32 Octets registered with IPTC	:	Octets assigned by Provider of Object	:	Octets assigned by Provider of Object
<i>8 Octets</i>	<i>1</i>	<i>Maximum of 61 Octets including ES</i>			<i>1</i>	<i>Maximum of 9 Octets</i>

1:120 ARM Identifier Optional, not repeatable, two octets consisting of a binary number.

The DataSet identifies the Abstract Relationship Method (ARM) which is described in a document registered by the originator of the ARM with the IPTC and NAA.

In Record 6, DataSets 6:192 through 6:255 are allocated for the purposes of the ARM.

Details of the originator and a brief description of the ARM are contained in Appendix F.

1:122 ARM Version Mandatory if DataSet 1:120 is used, not repeatable, two octets consisting of a binary number representing the particular version of the ARM specified in DataSet 1:120. A list of ARM Identifiers, including version cross references, is included as Appendix F.

7. PRE-OBJECTDATA DESCRIPTOR RECORD

- 7:10 Size Mode** Mandatory, not repeatable, one octet.
- The octet is set to the binary value of '0' if the size of the objectdata is not known and is set to '1' if the size of the objectdata is known at the beginning of transfer.
- 7:20 Max Subfile Size** Mandatory, not repeatable.
- A binary number indicating the maximum size for the following Subfile DataSet(s).
- The largest number is not defined, but programmers should provide at least for the largest binary number contained in four octets taken together. If the entire object is to be transferred together within a single DataSet 8:10, the number equals the size of the object.
- 7:90 ObjectData Size Announced** Mandatory if DataSet 7:10 has value '1' and not allowed if DataSet 7:10 has value '0'. Not repeatable.
- A binary number representing the overall size of the objectdata, expressed in octets, not including tags, if that size is known when transfer commences.
- 7:95 Maximum ObjectData Size** Optional, not repeatable.
- A binary number used when objectdata size is not known, indicating the largest size, expressed in octets, that the objectdata can possibly have, not including tags.

9. OBJECTDATA RECORD

8:10 Subfile Mandatory, repeatable.

Subfile DataSet containing the objectdata itself. Subfiles must be sequential so that the subfiles may be reassembled.

10. POST-OBJECTDATA DESCRIPTOR RECORD

9:10 Confirmed Mandatory, not repeatable.

**ObjectData
Size**

A binary number.

Total size of the objectdata, in octets, without tags. This number should equal the number in DataSet 7:90 if the size of the objectdata is known and has been provided.

IPTC-NAA INFORMATION INTERCHANGE MODEL PART II

11. APPLICATION RECORD

11.1 Functionality

Part II provides details of an application record to provide pertinent editorial information about the object as described in Part I.

11.2 Implementation Guidelines

Implementation guidelines as described in Part I apply to Part II as well.

11.3 Uniqueness

Use of Record No. 2 shall only be as described in this section. Any changes in DataSets will be by international concurrence.

11.4 Application Record No. 2

All Record No. 2 DataSets herein described are **optional**, but if any are used DataSet 2:00 is mandatory. Some registered File Formats may require the mandatory use of some Record No. 2 DataSets.

2:00	Record Version	Mandatory, not repeatable, two octets. A binary number identifying the version of the Information Interchange Model, Part II (Record 2:xx), utilised by the provider. Version numbers are assigned by IPTC and NAA. The version number of this record is three (3).
2:05	Object Name	Not repeatable, maximum 64 octets, consisting of graphic characters plus spaces. Used as a shorthand reference for the object. Changes to existing data, such as updated stories or new crops on photos, should be identified in Edit Status. <i>Examples:</i> "Wall St." "Ferry Sinks"

2:07	Edit Status	<p>Not repeatable. Maximum 64 octets, consisting of graphic characters plus spaces.</p> <p>Status of the objectdata, according to the practice of the provider.</p> <p><i>Examples:</i> "Lead" "CORRECTION"</p>
2:08	Editorial Update	<p>Not repeatable, 2 octets, consisting of numeric characters. Indicates the type of update that this object provides to a previous object. The link to the previous object is made using the ARM (DataSets 1:120 and 1:122), according to the practices of the provider.</p> <p>Possible values:</p> <p>01 Additional language. Signifies that the accompanying Record 2 DataSets repeat information from another object in a different natural language (as indicated by DataSet 2:135).</p>
2:10	Urgency	<p>Not repeatable, one octet, consisting of a numeric character.</p> <p>Specifies the editorial urgency of content and not necessarily the envelope handling priority (see 1:60, Envelope Priority). The '1' is most urgent, '5' normal and '8' denotes the least-urgent copy. The numerals '9' and '0' are reserved for future use.</p>
2:15	Category	<p>Not repeatable, maximum three octets, consisting of alphabetic characters.</p> <p>Identifies the subject of the objectdata in the opinion of the provider.</p> <p>A list of categories will be maintained by a regional registry, where available, otherwise by the provider.</p>

2:20	Supplemental Category	<p>Repeatable, maximum 32 octets, consisting of graphic characters plus spaces.</p> <p>Supplemental categories further refine the subject of an objectdata. Only a single supplemental category may be contained in each DataSet. A supplemental category may include any of the recognised categories as used in 2:15. Otherwise, selection of supplemental categories are left to the provider.</p> <p><i>Examples:</i> "NFL" (National Hockey League) "Fußball"</p>
2:22	Fixture Identifier	<p>Not repeatable, maximum 32 octets, consisting of graphic characters.</p> <p>Identifies objectdata that recurs often and predictably. Enables users to immediately find or recall such an object.</p> <p><i>Example:</i> "EUROWEATHER"</p>
2:25	Keywords	<p>Repeatable, maximum 64 octets, consisting of graphic characters plus spaces.</p> <p>Used to indicate specific information retrieval words.</p> <p>Each keyword uses a single Keywords DataSet. Multiple keywords use multiple Keywords DataSets.</p> <p>It is expected that a provider of various types of data that are related in subject matter uses the same keyword, enabling the receiving system or subsystems to search across all types of data for related material.</p> <p><i>Examples:</i> "GRAND PRIX" "AUTO"</p>
2:30	Release Date	<p>Not repeatable, eight octets, consisting of numeric characters.</p> <p>Designates in the form CCYYMMDD the earliest date the provider intends the object to be used. Follows ISO 8601 standard.</p>

Example:

"19890317" indicates data for release on 17 March 1989.

2:35 Release Time Not repeatable, 11 octets, consisting of graphic characters.

Designates in the form HHMMSS±HHMM the earliest time the provider intends the object to be used. Follows ISO 8601 standard.

Example:

"090000-0500" indicates object for use after 0900 in New York (five hours behind UTC)

2:37 Expiration Date Not repeatable, eight octets, consisting of numeric characters.

Designates in the form CCYYMMDD the latest date the provider or owner intends the objectdata to be used. Follows ISO 8601 standard.

Example:

"19940317" indicates an objectdata that should not be used after 17 March 1994.

2:38 Expiration Time Not repeatable, 11 octets, consisting of graphic characters.

Designates in the form HHMMSS±HHMM the latest time the provider or owner intends the objectdata to be used. Follows ISO 8601 standard.

Example:

"090000-0500" indicates an objectdata that should not be used after 0900 in New York (five hours behind UTC).

Expiration date and time have uses beyond audio data. Weather forecasts, for example, typically carry expiration dates and times.

2:40 Special Instructions Not repeatable, maximum 256 octets, consisting of graphic characters plus spaces.

Other editorial instructions concerning the use of the objectdata, such as embargoes and warnings.

Examples:

"SECOND OF FOUR STORIES"

"3 Pictures follow"

"Argentina OUT"

2:42 Action Advised Not repeatable, 2 octets, consisting of numeric characters. Indicates the type of action that this object provides to a previous object. The link to the previous object is made using the ARM (DataSets 1:120 and 1:122), according to the practices of the provider.

Possible values:

01 Object Kill. Signifies that the provider wishes the holder of a copy of the referenced object make no further use of that information and takes steps to prevent further distribution thereof. Implies that any use of the object might result in embarrassment or other exposure of the provider and/or recipient.

02 Object Replace. Signifies that the provider wants to replace the referenced object with the object provided under the current envelope.

Note:

The following DataSets 2:45, 2:47 and 2:50, when repeated, will be repeated together, i.e. in sequential triplets.

2:45 Reference Service Optional, repeatable, format identical with 1:30.

Identifies the Service Identifier of a prior envelope to which the current object refers.

Must be followed by 2:47 and 2:50 with repetition occurring in sequential triplets. Used together, 2:45, 2:47 and 2:50 indicate that the current object refers to the content of a prior envelope.

2:47 Reference Date Mandatory if 2:45 exists and otherwise not allowed. Repeatable, format identical with 1:70

Identifies the date of a prior envelope to which the current object refers.

2:50	Reference Number	<p>Mandatory if 2:45 exists and otherwise not allowed. Repeatable, format identical with 1:40.</p> <p>Identifies the Envelope Number of a prior envelope to which the current object refers.</p>
2:55	Date Created	<p>Not repeatable, eight octets, consisting of numeric characters.</p> <p>Represented in the form CCYYMMDD to designate the date the intellectual content of the objectdata was created rather than the date of the creation of the physical representation. Follows ISO 8601 standard. Where the month or day cannot be determined, the information will be represented by "00". Where the year cannot be determined, the information for century and year will be represented by "00".</p> <p>Thus a photo taken during the American Civil War would carry a creation date during that epoch (1861-1865) rather than the date the photo was digitised for archiving.</p> <p><i>Example:</i></p> <p style="padding-left: 40px;">"19900127" indicates the intellectual content created on 27th January 1990.</p>
2:60	Time Created	<p>Not repeatable, 11 octets, consisting of graphic characters.</p> <p>Represented in the form HHMMSS±HHMM to designate the time the intellectual content of the objectdata current source material was created rather than the creation of the physical representation. Follows ISO 8601 standard.</p> <p>Where the time cannot be precisely determined, the closest approximation should be used.</p> <p><i>Example:</i></p> <p style="padding-left: 40px;">"133015+0100" indicates that the object intellectual content was created at 1:30 p.m. and 15 seconds Frankfurt time, one hour ahead of UTC.</p>

2:62 Digital Creation Date Not repeatable, eight octets, consisting of numeric characters.
Represented in the form CCYYMMDD to designate the date the digital representation of the ObjectData was created. Follows ISO 8601 standard. Thus a photo taken during the American Civil War would carry a Digital Creation Date within the past several years rather than the date where the image was captured on film, glass plate or other substrate during that epoch (1861-1865).

Example:

"19900127" indicates digital form of the ObjectData was created on 27th January 1990.

2:63 Digital Creation Time Not repeatable, 11 octets, consisting of graphic characters.
Represented in the form HHMMSS±HHMM to designate the time the digital representation of the ObjectData was created. Follows ISO 8601 standard.

Example:

"133015+0100" indicates that the digital form of the ObjectData was created at 1:30 p.m. and 15 seconds Frankfurt time, one hour ahead of UTC.

NOTE: DataSets 2:65 and 2:70 are to form an advisory to the user and are not "computer" fields. Programmers should not expect to find computer-readable information in these DataSets.

2:65 Originating Program Not repeatable, maximum of 32 octets, consisting of graphic characters plus spaces.

Identifies the type of program used to originate the objectdata.

Examples:

"Word Perfect"

"SCITEX"

"MacDraw"

2:70 Program Version Not repeatable, maximum of 10 octets, consisting of graphic characters plus spaces.

Used to identify the version of the program mentioned in 2:65. DataSet 2:70 is invalid if 2:65 is not present.

2:75	Object Cycle	<p>Not repeatable, one octet, consisting of an alphabetic character.</p> <p>Where:</p> <p>'a' = morning 'p' = evening 'b' = both</p> <p>Virtually only used in North America.</p>
2:80	By-line	<p>Repeatable, maximum 32 octets, consisting of graphic characters plus spaces.</p> <p>Contains name of the creator of the objectdata, e.g. writer, photographer or graphic artist.</p> <p><i>Examples:</i></p> <p style="padding-left: 40px;">"Robert Capa" "Ernest Hemingway" "Pablo Picasso"</p>
2:85	By-line Title	<p>Repeatable, maximum 32 octets, consisting of graphic characters plus spaces.</p> <p>A by-line title is the title of the creator or creators of an objectdata. Where used, a by-line title should follow the by-line it modifies.</p> <p><i>Examples:</i></p> <p style="padding-left: 40px;">"Staff Photographer" "Corresponsal" "Envoyé Spécial"</p>
2:90	City	<p>Not repeatable, maximum 32 octets, consisting of graphic characters plus spaces.</p> <p>Identifies city of objectdata origin according to guidelines established by the provider.</p> <p><i>Examples:</i></p> <p style="padding-left: 40px;">"Zürich" "Milano" "New York"</p>
2:92	Sublocation	<p>Not repeatable, maximum 32 octets, consisting of graphic characters plus spaces.</p>

Identifies the location within a city from which the objectdata originates, according to guidelines established by the provider.

Examples:

"Capitol Hill"

"Maple Leaf Gardens"

"Strandgateparken"

The location used as a dateline for audio reports often refers not to a city, but a place within a city, such as "Strandgateparken."

2:95 Province/ State Not repeatable, maximum 32 octets, consisting of graphic characters plus spaces.

Identifies Province/State of origin according to guidelines established by the provider.

Examples:

"WA"

"Sussex"

"Baden-Württemberg"

2:100 Country/ Primary Location Code Not repeatable, three octets consisting of alphabetic characters. Indicates the code of the country/primary location where the intellectual property of the objectdata was created, e.g. a photo was taken, an event occurred.

Where ISO has established an appropriate country code under ISO 3166, that code will be used. When ISO3166 does not adequately provide for identification of a location or a new country, e.g. ships at sea, space, IPTC will assign an appropriate three-character code under the provisions of ISO3166 to avoid conflicts. (see Appendix D)

Examples:

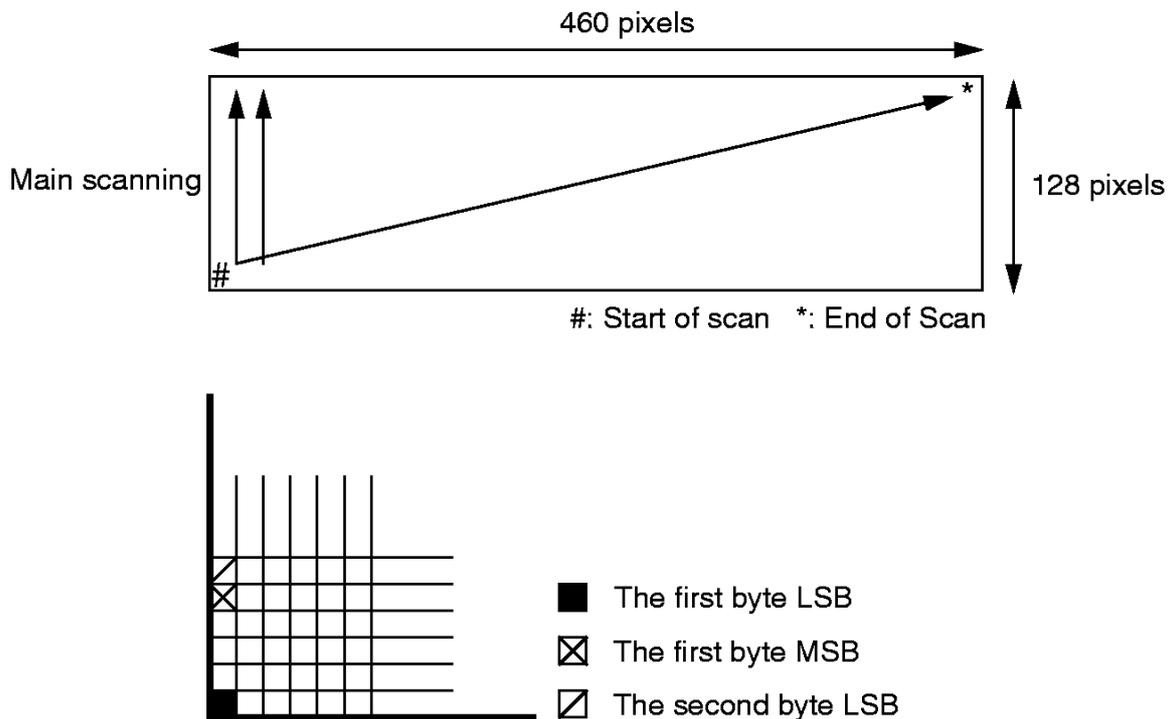
"USA" (United States)

"FRA" (France)

"XUN" (United Nations)

- 2:101 Country/Primary Location Name** Not repeatable, maximum 64 octets, consisting of graphic characters plus spaces.
Provides full, publishable, name of the country/primary location where the intellectual property of the objectdata was created, according to guidelines of the provider.
- 2:103 Original Transmission Reference** Not repeatable. Maximum 32 octets, consisting of graphic characters plus spaces.
A code representing the location of original transmission according to practices of the provider.
Examples:
BER-5
PAR-12-11-01
- 2:105 Headline** Not repeatable, maximum of 256 octets, consisting of graphic characters plus spaces.
A publishable entry providing a synopsis of the contents of the objectdata.
Example:
"Lindbergh Lands In Paris"
- 2:110 Credit** Not repeatable, maximum of 32 octets, consisting of graphic characters plus spaces.
Identifies the provider of the objectdata, not necessarily the owner/creator.
- 2:115 Source** Not repeatable, maximum of 32 octets, consisting of graphic characters plus spaces.
Identifies the original owner of the intellectual content of the objectdata. This could be an agency, a member of an agency or an individual.
- 2:116 Copyright Notice** Not repeatable, maximum of 128 octets, consisting of graphic characters plus spaces.
Contains any necessary copyright notice.

- 2:118 Contact** Repeatable, maximum of 128 octets, consisting of graphic characters plus spaces.
- Identifies the person or organisation which can provide further background information on the objectdata.
- 2:120 Caption/Abstract** Not repeatable, maximum of 2000 octets, consisting of graphic characters plus carriage-returns, linefeeds and spaces.
- A textual description of the objectdata, particularly used where the object is not text.
- 2:122 Writer/Editor** Repeatable, maximum 32 octets, consisting of graphic characters plus spaces.
- Identification of the name of the person involved in the writing, editing or correcting of the objectdata or caption/abstract.
- 2:125 Rasterized Caption** Not repeatable, 7360 octets, consisting of binary data, one bit per pixel, two value bitmap where 1 (one) represents black and 0 (zero) represents white.
- Image width 460 pixels and image height 128 pixels.
Scanning direction bottom to top , left to right.



Contains the rasterized objectdata description and is used where characters that have not been coded are required for the caption.

2:130 Image Type

Not repeatable. Two octets. The first octet is a numeric character and the second is an alphabetic character.

The numeric characters 1 to 4 indicate the number of components in an image, in single or multiple envelopes.

The numeric character 0 indicates Record 2 caption for a specific image.

The numeric character 9 specifies that the objectdata contains supplementary data to an image (as defined in the Digital Newsphoto Parameter Record DataSet 3:55).

Possible values:
 Octet 1:

'0' = No ObjectData.

If this option is chosen, DataSet 8:10 of the ObjectData Record will be present (mandatory), but will be empty, i.e. a count of zero octets.

'1' = Single component, e.g. black and white or one component of a colour project.

'2', '3', '4' = Multiple components for a colour project.

'9' = Supplemental objects related to other objectdata

Other values are reserved for future use.

The alphabetic character will indicate the exact content of the current objectdata in terms of colour composition.

Possible values:

Octet 2:

'W' = Monochrome.

'Y' = Yellow component.

'M' = Magenta component.

'C' = Cyan component.

'K' = Black component.

'R' = Red component.

'G' = Green component.

'B' = Blue component.

'T' = Text only.

'F' = Full colour composite, frame sequential.

'L' = Full colour composite, line sequential.

'P' = Full colour composite, pixel sequential.

'S' = Full colour composite, special interleaving.

Other values are reserved for future use.

Note: When '0' or 'T' are used, the only authorised combination is: "0T"

2:131 Image Orientation Not repeatable, one octet, consisting of an alphabetic character. Allowed values are P (for Portrait), L (for Landscape) and S (for Square).

Indicates the layout of the image area.

2:135 Language Identifier Not repeatable, three octets, consisting of alphabetic characters.

Describes the major national language of the object, according to ISO 639:1988. Does not define or imply any coded character set, but is used for internal routing, e.g. to various editorial desks.

2:150 Audio Type Not repeatable. Two octets. The first octet is a numeric character, while the second is an alphabetic character.

Octet 1 represents the number of channels. Possible values:

'0' = no objectdata

If this option is chosen, DataSet 8:10 of the ObjectData Record will be present (It is mandatory.), but will be empty, i.e. a count of zero octets.

'1' = monaural (1 channel) audio

'2' = stereo (2 channel) audio

Other values are reserved for future use.

Octet 2 indicates the exact type of audio contained in the current objectdata.

Possible values:

'A' = Actuality

'C' = Question and answer session

'M' = Music, transmitted by itself

'Q' = Response to a question

'R' = Raw sound

'S' = Scener

'T' = Text only

'V' = Voicer

'W' = Wrap

Other values are reserved for future use.

Examples:

"IV" for a mono voicer

"2M" for music recorded in stereo

Note: When '0' or 'T' is used, the only authorised combination is "0T". This is the mechanism for sending a caption either to supplement an audio cut sent previously without a caption or to correct a previously sent caption.

2:151 Audio Sampling rate Not repeatable. Six octets with leading zero(s), consisting of Sampling rate numeric characters, representing the sampling rate in hertz (Hz).

Examples:

"011025" for a sample rate of 11025 Hz

"022050" for a sample rate of 22050 Hz

"044100" for a sample rate of 44100 Hz

2:152 Audio Sampling resolution Not repeatable. Two octets with leading zero(s), consisting of resolution numeric characters representing the number of bits in each audio sample.

Examples:

"08" for a sample size of 8 bits

"16" for a sample size of 16 bits

"20" for a sample size of 20 bits

2:153 Audio Duration Not repeatable. Six octets, consisting of numeric characters. Duration Designates in the form HHMMSS the running time of an audio objectdata when played back at the speed at which it was recorded.

Example:

"000105" for an cut lasting one minute, five seconds

2:154 Audio Outcue Not repeatable, maximum 64 octets, consisting of graphic characters plus spaces.

Identifies the content of the end of an audio objectdata, according to guidelines established by the provider.

Examples:

"... better as a team"

"fades"

"...Jean Krause Paris"

The outcue generally consists of the final words spoken within an audio objectdata or the final sounds heard.

APPENDIX A

FILE FORMATS (DataSet 1:20)

The following File Formats have been registered by the NAA and IPTC:

Ident No:	Description:
00	No ObjectData
01	IPTC-NAA Digital Newsphoto Parameter Record
02	IPTC7901 Recommended Message Format
03	Tagged Image File Format (Aldus Image data)
04	Illustrator (Adobe Graphics data)
05	AppleSingle (Apple Computer Inc)
06	NAA 89-3 (ANPA 1312)
07	MacBinary II
08	IPTC Unstructured Character Oriented File Format (UCOFF)
09	United Press International ANPA 1312 variant
10	United Press International Down-Load Message
11	JPEG File Interchange (JFIF)
12	Photo-CD Image-Pac (Eastman Kodak)
13	Microsoft Bit Mapped Graphics File [*.BMP]
14	Digital Audio File [*.WAV] (Microsoft & Creative Labs)
15	Audio plus Moving Video [*.AVI] (Microsoft)
16	PC DOS/Windows Executable Files [*.COM][*.EXE]
17	Compressed Binary File [*.ZIP] (PKWare Inc)
18	Audio Interchange File Format AIFF (Apple Computer Inc)
19	RIFF Wave (Microsoft Corporation)
20	Freehand (Macromedia/Aldus)
21	Hypertext Markup Language "HTML" (The Internet Society)
22	MPEG 2 Audio Layer 2 (Musicom), ISO/IEC
23	MPEG 2 Audio Layer 3, ISO/IEC
24	Portable Document File (PDF) Adobe
25	News Industry Text Format (NITF)

NOTE: Other file formats may also be registered with IPTC and NAA and not listed here pending issue of a document revision. Contact IPTC or NAA for update information.

FILE VERSIONS [DataSet 1:22]

The following cross reference is specified for the file format versions registered by the NAA and IPTC:

Ident No (1:20)	Version	Version No (1:22)
00	1	00
01	1	01
01	2	02
01	3	03
02	4	04
03	5.0	01
03	6.0	02
04	1.40	01
05	2	01
06	1	01
11	1.02	01
20	3.1	01
20	4.0	02
20	5.0	03
21	2.0	02

APPENDIX B

ADDRESSES OF ORGANISATIONS MENTIONED

Newspaper Association of America (formerly American Newspaper Publishers Association)

The Newspaper Center
11600 Sunrise Valley Drive
Reston
VA 20091

USA

Telephone +1 (1)703 648 1000
Telefax +1 (1)703 648 1334

Director Telecommunications Standardization Sector International Telecommunications Union

Place des Nations
CH-1211 Geneva 20

SWITZERLAND

Telephone +41 (0)22 730 51 11
Telefax +41 (0)22 733 72 56

International Organization For Standardization

1, rue de Varembé
Case postale 56
CH-1211 Geneva 20

SWITZERLAND

Telephone +41 (0)22 749 01 11
Telefax +41 (0)22 733 34 30

International Press Telecommunications Council

10 Sheet Street
Windsor
Berks SL4 1BG

UNITED KINGDOM

Telephone: +44 (0)1753 833728
Telefax +44 (0)1753 833750
Email 100321.2156@compuserve.com

APPENDIX C

1. The IPTC-NAA Code Library

ECMA as the ISO Registration Authority for escape sequences maintains the International Register of Coded Character Sets to be used with escape sequences, a register of Codes and allocated standardised escape sequences, which are recognised by IPTC-NAA without further approval procedure. The registration procedure is defined in ISO 2375. IPTC-NAA maintain a Register of Codes and allocated private escape sequences, which are shown in paragraph 1.2. IPTC may, as Sponsoring Authority, submit such private sequence Codes for approval as standardised sequence Codes. The registers consist of a Graphic repertoire, a Control function repertoire and a Repertoire of other coding systems (e.g. complete Codes). Together they represent the IPTC-NAA Code Library.

1.1 The International Register of Coded Character Sets to be used with escape sequences

The most used Codes contained in the Register are:

Reg. No. Name Final Character

Graphic Repertoire

94-character sets (intermediate character 2/8 to 2/11):

002	ISO 646 IRV	4/0
004	ISO 646 British Version	4/1
006	ISO 646 USA Version (ASCII)	4/2
008-1	NATS, Primary Set for Finland and Sweden	4/3
008-2	NATS, Secondary Set for Finland and Sweden	4/4
009-1	NATS, Primary Set for Denmark and Norway	4/5
009-2	NATS, Secondary Set for Denmark and Norway	4/6
010	ISO 646 Swedish Version (SEN 850200)	4/7
015	ISO 646 Italian Version (ECMA)	5/9
016	ISO 646 Portuguese Version (ECMA Olivetti)	4/12
017	ISO 646 Spanish Version (ECMA Olivetti)	5/10
018	ISO 646 Greek Version (ECMA)	5/11

Reg. No.	Name	Final character
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021	ISO 646 German Version (DIN 66003)	4/11
037	Basic Cyrillic Character Set (ISO 5427)	4/14
060	ISO 646 Norwegian Version (NS 4551)	6/0
069	ISO 646 French Version (NF Z 62010-1982)	6/6
084	ISO 646 Portuguese Version (ECMA IBM)	6/7
085	ISO 646 Spanish Version (ECMA IBM)	6/8
086	ISO 646 Hungarian Version (HS 7795/3)	6/9
121	Alternate Primary Graphic Set No. 1 (Canada CSA Z 243.4-1985)	7/7
122	Alternate Primary Graphic Set No. 2 (Canada CSA Z 243.4-1985)	7/8

96-character sets (intermediate character 2/12 to 2/15):

100	Right-hand Part of Latin Alphabet No. 1 (ISO 8859-1)	4/1
101	Right-hand Part of Latin Alphabet No. 2 (ISO 8859-2)	4/2
109	Right-hand Part of Latin Alphabet No. 3 (ISO 8859-3)	4/3
110	Right-hand Part of Latin Alphabet No. 4 (ISO 8859-4)	4/4
111	Right-hand Part of Latin/Cyrillic Alphabet (ISO 8859-5)	4/0
125	Right-hand Part of Latin/Greek Alphabet (ISO 8859-7)	4/6
127	Right-hand Part of Latin/Arabic Alphabet (ISO 8859-6)	4/7
138	Right-hand Part of Latin/Hebrew Alphabet (ISO 8859-8)	4/8
139	Right-hand Part of Czechoslovak Standard (CSN 369103)	4/9

Control Function Repertoire

C0 Control Function Sets (intermediate character 2/1):

001	C0 Set of ISO 646	4/0
026	IPTC C0 Set for newspaper text transmission	4/3
036	C0 Set of ISO 646 with SS2 instead of IS4	4/4
104	Minimum C0 Set for ISO 4873	4/7

Reg. No. Name Final character

C1 Control Function Sets (intermediate character 2/2):

077	C1 Control Set of ISO 6429	4/3
105	Minimum C1 Set for ISO 4873	4/7

Single Additional Control Functions:

062	Locking-Shift Two (LS2), ISO 2022	6/14
063	Locking-Shift Three (LS3), ISO 2022	6/15
064	Locking-Shift Three Right (LS3R), ISO 2022	7/12
065	Locking-Shift Two Right (LS2R), ISO 2022	7/13
066	Locking-Shift One Right (LS1R), ISO 2022	7/14

Repertoire of Other Coding Systems (e.g. complete Codes, intermediate character 2/5)

None.

1.2. The IPTC-NAA Register of Codes

Further details of the Codes and the IPTC-NAA Register of Codes sponsored by IPTC can be obtained from IPTC or NAA.

APPENDIX D

The IPTC-NAA Country Codes

In consultation with DIN, the country code management agency for ISO, IPTC has identified the following codes for use by News Organisations.

ISO assigned

URY - Uruguay (omitted from former list)

ATA - Antarctica (a previously recognised code that was not on the list)

The following new codes are not supported by ISO, but follow the ISO guidelines for industry use of codes where no formal designation exists:

XUN - United Nations

XEU - European Union (formerly known as the EC and before that the EEC)

XSP - SPace

XSE - At SEa

XIF - In Flight

XEN - England (where greater granularity than Great Britain is desired)

XSC - SCotland

XNI - Northern Ireland

XWA - WAles.

ISO has reserved the following codes for the indicated areas..

PSE - Palestine

GZA - Gaza

JRO - Jericho

APPENDIX E

INFORMATION PROVIDERS REFERENCE (DataSet 1:100)

The following IPR have been registered by the NAA and IPTC:

I P Reference:	Information Provider:
AFP	Agence France Presse
AP	Associated Press
APD	Associated Press
APE	Associated Press
APF	Associated Press
APS	Associated Press
BN	Canadian Press
CP	Canadian Press
dpa	Deutsche Presse-Agentur GmbH
HNA	Croatian News Agency
MTI	Magyar Távirati Iroda / Hungarian News Agency
PC	Canadian Press
PN	Canadian Press
REUTERS	Reuters
TT	Tidningarnas Telegrambyrå
UP	United Press International
UPI	United Press International

APPENDIX F

ABSTRACT RELATIONSHIP METHOD IDENTIFIERS (DataSets 1:120 and 1:122)

1:120	1:122	Descriptive Name
01	01	IPTC Method 1 (Using DataSets 2:45, 2:47 and 2:50)
02	01	IPTC Method 2 (Using DataSet 1:100)